

# **Habitat Management Plan for Bicknell Bottoms Waterfowl Management Area**

## **Executive Summary – April 2022**

### **Primary Purpose of Bicknell Bottoms WMA:**

The Bicknell Bottoms WMA is used primarily to protect and enhance waterfowl, upland game, fish and their habitats. In addition, many other types of wildlife, terrestrial and aquatic, along with their habitats, will similarly receive protection and enhancement. Human uses that will be allowed and promoted include hunting, fishing and wildlife viewing.

### **Wildlife Species:**

The Bicknell Bottoms WMA provides habitat for many species of waterfowl, including but not limited to, Canada goose, mallard, green-winged and cinnamon teal, pintail, shoveler, gadwall, wigeon, and coot. Ring-necked pheasants are actively managed on the WMA and are released every year for the purpose of enhancing hunting opportunities. Many species of passerine birds and raptors use the WMA. Golden eagles forage in the marsh year-round and bald eagles are occasional winter visitors.

Mammal species that utilize the WMA include mule deer, elk, jackrabbit, cottontail rabbit, raccoon, mink, beaver, and muskrat. Mule deer and elk use the property year-round with seasonal increases in fall and winter.

The Fremont River and Pine Creek provide habitat for several species of sport fish, including rainbow and brown trout. The most notable native fish species using Bicknell Bottoms is the leatherside chub, although the Fremont River and its tributaries are not considered native range for them.

### **Habitat Improvement:**

During the months of January, February and March of 2022, an advisory committee met and developed goals, objectives and strategies for many activities on the Bicknell Bottoms WMA which will guide the habitat improvement plan for this HMP.

Specific habitat improvement related strategies are listed below:

- Conduct annual vegetation treatments beginning in the summer of 2022 using herbicide and tracked Marsh Master equipment to define corridors (width to be determined by taking reference widths on existing channels in Fremont River and Pine Creek) from the Fremont River to Pine Creek and some private land springs to Pine Creek in an effort to encourage flow and establish a channel over the next 5 years. Approximate location of corridors are highlighted in map 4 of Appendix B. Exact treatment locations will be determined using dye tests and topographical drone technology. If successful, maintenance of the corridors will continue into the future.
- Pursue permits (Stream Alteration, ACOE) to establish a channel through direct actions on the WMA if the vegetation management strategy defined above is deemed unsuccessful.
- Use prescribed (Rx) fire on a rotational basis with a target of every 5-10 years within wetland areas.
- Provide support to adjacent landowners to remedy recent and future debris flows. If requested, DWR aquatic staff will work with adjacent landowners to develop restoration plans and assist in pursuing the necessary permits.
- In conjunction with vegetation management corridors develop pockets devoid of vegetation to allow for standing water using the Marsh Master and herbicide.
- Use bank anchored log structures to increase overhead cover in the current existing fishable channels as well as any additional channels that establish as a result of the implementation of the vegetation management strategy.
- Expand upland game plantings in existing upland plots to the extent possible.
- Develop a second upland plot on the western edge of the property if irrigation is deemed allowable under whirling disease recommendations.
- Develop additional plantings on the north side of Pine Creek adjacent to the existing upland plot - dependent on equipment access (possibly administrative ATV access across the footbridge).

### **Access Management:**

Access to the WMA is walk-in only. In addition to being limited to access by foot, that access is also impacted by the amount of water on the WMA and necessitates the use of waders to access much of the area. Recognizing this, as well as problems associated with limited parking

and increasing interest in use of the WMA, the advisory committee developed the following strategies to assist in the management of access to the WMA:

- Identify nearby properties eligible for the Walk-In-Access program and provide application assistance to interested parties.
- Install a footbridge across Pine Creek near the pheasant flight pens to increase ease of access to the north side of the wetland from the south access point. Depending on design, bridge installation may require a permit.
- Incentivize access provided by private landowners to the extent possible (i.e. Walk-In-Access, Conservation Easements, Land Exchanges, Acquisitions, etc) and provide for improved infrastructure at access points (i.e. walk-through gates or other infrastructure at fences).
- Develop off-road parking opportunities adjacent to upland game plot(s).
- Identify in the plan that camping is not allowed on the WMA and post no camping signs at the expanded parking area(s).

### **Maintenance Activities**

Typical annual maintenance duties include weed control, fence maintenance, signage and annual farming activities in the upland game habitat area.

Specific development related strategies are listed below:

- Develop infrastructure to use DWR water rights on targeted areas if feasible. This may require changes in points of diversion and other planning and its implementation is dependent on those changes being approved. This strategy will not be a first priority in implementation of the Habitat Management Plan.
- Assist efforts to establish debris control structures upstream of Bicknell Bottoms to reduce future debris flows into the WMA.
- Identify opportunities for and pursue installation of additional gauging stations or other water flow measurement devices. Locations to include one on the Fremont River and one on Pine Creek.
- Install a footbridge across Pine Creek near the pheasant flight pens to increase ease of access to the north side of the wetland from the south access point. Depending on design, bridge installation may require a permit.
- Develop off-road parking opportunities adjacent to upland game plot(s).

- Identify in the plan that camping is not allowed on the WMA and post no camping signs at the expanded parking area(s).
- Incentivize access provided by private landowners to the extent possible (i.e. Walk-In-Access, Conservation Easements, Land Exchanges, Acquisitions, etc) and provide for improved infrastructure at access points (i.e. walk-through gates or other infrastructure at fences).

# **Habitat Management Plan for Bicknell Bottoms Waterfowl Management Area**

**April 2022**

## **I. BACKGROUND INFORMATION**

### **INTRODUCTION**

This Habitat Management Plan (HMP) has been developed to guide management on lands owned and managed by the Utah Division of Wildlife Resources (DWR) approximately two miles south of the town of Bicknell in Wayne County, Utah. These lands have been acquired over a span of years beginning in 1961 and as recently as 2020, and are collectively known as the Bicknell Bottoms Waterfowl Management Area (WMA).

In December of 2021, an advisory committee was formed to assist the DWR in updating and revising the Bicknell Bottoms WMA HMP. The committee was composed of 12 official members representing constituency groups including hunters, anglers, adjacent landowners, downstream water users, conservation district staff and elected officials including the Wayne County Commission and Bicknell Town Council. In addition, a variety of staff from the DWR habitat, wildlife, aquatic and outreach sections attended the committee meetings to serve as subject matter experts and to help gather the information compiled by the committee. Other invited participants that helped on an as-needed basis included staff from the Utah Division of Water Rights and the Army Corps of Engineers.

The committee met five times during the winter of 2022, and ultimately created a document listing goals, objectives and strategies that they would like to see addressed in this HMP. This document in its entirety is included as Appendix A. In addition, the goals, objectives and strategies have been incorporated into this HMP where they are applicable. At the first meeting, the committee also drafted a charter that identified the purpose, authority, expectations, time frame, roles and responsibilities of the group. One of the key roles of the group was identified as supporting group decisions which would be made through the process of consensus, meaning all will have the chance to be heard and can support or live with the decisions that are made. The charter is included as Appendix B.

## **PURPOSE OF DIVISION OWNERSHIP**

The Bicknell Bottoms WMA was purchased to protect waterfowl, fisheries, upland game and their habitat in addition to providing access for hunters and anglers to enjoy these resources. In addition, the J. Perry Egan state fish hatchery is located within the Bicknell Bottoms WMA. The J. Perry Egan hatchery is one of the state's most important hatcheries as it provides the majority of sport fish broodstock for the entire state. While this hatchery is not managed under this WMA management plan, it should be noted that the goals, strategies and objectives of this plan also seek to protect the viability of this key asset in the State Hatchery System.

## **HISTORIC USES**

The Bicknell Bottoms area was historically used for livestock grazing. Numerous private landowners also used the area for irrigated pasture land. The Bicknell Bottoms WMA contains the confluence of the Fremont River and Pine Creek which creates a wetland area that consists of various marshes and wet meadows. The area was known for its waterfowl and upland game hunting opportunities. The Fremont River and Pine Creek have historically provided trout fishing opportunities.

## **PUBLIC RECREATION OPPORTUNITIES**

### **PUBLIC ACCESS**

There are no formal seasonal closures or other permanent restrictions on public access. However, motor vehicle access is limited to the existing county roads surrounding the WMA. The WMA is accessible by foot to hunters, anglers, and other wildlife and recreation enthusiasts, but access to much of the interior of the property requires the use of waders.

There are several developed fence walk-through-stiles that are intended to make access easier. Many users access the WMA through these walk-throughs by parking adjacent to them alongside the county road. This plan proposes to develop 2 new pull-through parking areas intended to allow users to exit the county road and accommodate the increasing number of users seen in recent years. Maps 2 and 4 in Appendix C highlight these walk-through-stiles and the proposed parking areas.

## **CAMPING**

Overnight camping is not permitted at the Bicknell Bottoms WMA. This will also include the new parking areas that will be developed as part of this plan, and as such, the areas will need to have “No Camping” signs posted upon completion.

## **KEY WILDLIFE SPECIES**

The Bicknell Bottoms WMA provides habitat for many species of waterfowl, including but not limited to, Canada goose, mallard, green-winged and cinnamon teal, pintail, shoveler, gadwall, wigeon, and coot. Ring-necked pheasants are actively managed on the WMA and are released every year for the purpose of enhancing hunting opportunities. Many species of passerine birds and raptors use the WMA. Golden eagles forage in the marsh year round and bald eagles are occasional winter visitors.

Mammal species that use the WMA include mule deer, elk, jackrabbit, cottontail rabbit, raccoon, mink, beaver, and muskrat. Mule deer and elk use the property year-round with seasonal increases in fall and winter.

An undetermined number of amphibian and reptile species also inhabit the WMA.

The Fremont River and Pine Creek provide habitat for several species of sport fish including rainbow and brown trout. The most notable native fish species using Bicknell Bottoms is the leatherside chub, although the Fremont River and its tributaries are not considered native range for them.

## **GRAZING**

Although prescribed fire and herbicide use are the preferred methods for vegetation management, the DWR may use domestic livestock grazing to manage vegetation on the WMA if grazing is determined to be beneficial for the maintenance or improvement of wildlife habitat. The WMA is eligible for use as a grassbank property and can be made available for grazing as in-kind trade for conservation actions on public or private lands, emergency forage for DWR grazing permittees or any other purpose designated by the DWR. In recent years the WMA has been offered as a grassbank twice. In 2018, 100 total head of cattle were permitted for approximately 1 month between September and October. In 2021, a solicitation for grassbank

grazing at the WMA was issued for 50 AUM's in the month of September. Ultimately, no bids were received.

## **II. PROPERTY INFORMATION**

### **PROPERTY DESCRIPTION**

The Bicknell Bottoms WMA is located in Wayne County, Utah. The property lies along both the Fremont River and Pine Creek drainages and includes wetlands associated with their corridors and numerous springs in the area.

The Bicknell Bottoms WMA is approximately 640 acres in size and includes approximately 1 mile of the Fremont River and 2.2 miles of Pine Creek. In addition, there are several other unnamed stream channels and corridors that contribute to the flow of the Fremont River prior to exiting the WMA.

(See Appendix C for maps; see Appendix D for information regarding deeds)

### **LAND ACQUISITION HISTORY**

On March 29, 1961, the Division purchased 134.84 acres from Clifford L. and Elizabeth B. Mangum.

On November 10, 1961, 315.58 acres were purchased from June S. and Irene Ellett, and Rulon S. and Bertha Ellett. One portion of this land was sold to Allen R. and Lawana Jones on October 7, 1997. Another portion of this land was later exchanged in a transaction with Seth E. and Erica E. Taft on October 6, 2020.

On August 21, 1962, an additional purchase from Clifford L. and Elizabeth B. Mangum for 40 acres was made. The entire 40 acres was disposed of in a transaction with Hugh V. and Fern P. King on December 10, 1962.

On December 13, 1962, the Division acquired 8.43 acres from Hugh V. and Fern P. King.

On July 8, 1963, the Division purchased 85.667 acres from Rotas S. and Ethel H. Durfey. A portion of this land was later disposed of in an exchange with Guy G. and Barbara C. Pace on February 25, 1971.

On November 23, 1970, Levi and Golda Bullard sold 39.85 acres to the Division. This portion of the property is classified as the J. Perry Egan Hatchery.

On February 25, 1971, the Division acquired 45.26 acres in a land exchange with Guy G. and Barbara C. Pace.

On April 30, 1982, Evan Garth Westenskow sold the Division 120 acres. A portion of this land was later disposed of in an exchange with Pace Ranches, Inc. on February 26, 1998.

On March 4, 1985, The State of Utah School and Institutional Trust Lands Administration (SITLA) which was at the time known as the Division of State Lands and Forestry, sold the Division 40 acres.

On February 13, 1998, the Division acquired 40 acres in a land exchange with Pace Ranches Inc.

In July 2005, the Division sold 13.02 acres to Dee Henshaw which resolved an ongoing land boundary conflict.

From May 1983 until May 1984, the Division leased 275 acres from Faun and Garth Westenskow until the lease expired.

On October 6, 2020, the Division acquired 15.98 acres in a land exchange with Seth E. and Erica E. Taft.

The second land acquisition for the WMA, 315.58 acres from Rulon S. and Bertha Ellett and the later land exchange of 16 acres for 15.98 acres with Seth E. and Erica E. Taft are the only parcels on the WMA purchased with Federal Aid funding (Project W-100-L). Therefore, federal aid stipulations do apply to those portions of the WMA.

(See Appendix C, map 3; See Appendix D for information concerning Deeds)

## **ENCUMBRANCES**

### **WATER RIGHTS/DEVELOPMENTS**

The Division owns nine separate water rights on the Bicknell Bottoms WMA that provide over 34 cfs of flow at the present time. All the water rights owned by the Division on the WMA come from Pine Creek, Pine Creek Spring, Bullard Spring and one underground well. The majority (23 cfs) of the Division-owned water rights have been perfected for fish culture at the J. Perry

Egan hatchery. The remaining water is filed as non-use or perfected irrigation. The non-use applications were filed to protect the water right from forfeiture in areas that were no longer irrigated due to the presence of whirling disease in Pine Creek and the threat to the hatchery if the water were used on those areas. The perfected irrigation rights are for a 20 acre parcel that we continue to irrigate for forage production, downstream from the hatchery. These rights are listed in Table 1 in Appendix E.

#### MINERAL DEVELOPMENT

Hugh V. and Fern P. King reserved all of the oil, gas, and mineral rights on the 32 acres the Division acquired from them.

Rotas S. and Ethel H. Durfey reserved all of the oil, gas and mineral rights on the land sold by them.

Levi and Golda Bullard reserved all rights to any minerals, oil, coal, and gas (excluding sand and gravel) on the 40 acres sold to the Division.

Guy G. and Barbara C. Pace reserved mineral rights on the land they exchanged to the Division.

(See Appendix D)

#### RIGHTS OF WAY

Mountain States Telephone and Telegraph Company holds a right-of-way easement across the property acquired in the land exchange with Pace Ranches Inc.

Garkane Power Association, Inc. maintains a utility easement on the property.

In 2005, Dee Henshaw, a private landowner, signed an Amended Grant of Perpetual Easement and Right-of-Way (Amended Easement) for a 36-in water pipeline across his private land. The easement was originally granted by a previous landowner in 1971; however a recent survey of the private property revealed that the pipeline was installed outside of the easement corridor described in the original easement and right-of-way. The Amended Easement made the appropriate changes to the easement's center line description so that it coincides with the current location of the pipeline.

(See Appendix D).

### **III. PROPERTY INVENTORY**

#### **EXISTING CAPITAL IMPROVEMENTS**

##### **ROADS**

The majority of this property is only accessible by foot (See Appendix C, Map 2).

The Hatchery Road runs along a majority of the south boundary of the WMA. This road is well used and maintained. The Bicknell Bottoms Road intersects the southwest corner of the property and is also well used and maintained. Another road that is frequently used to access the WMA is 400 West which runs south out of Bicknell. This is also a well maintained road that ends in a semi-developed parking area. From this parking area you must cross several private property owners by foot to access the WMA.

##### **FENCING**

The majority of the WMA is now fenced along property boundary lines. One exception includes the need to fence the property recently acquired in the 2020 land exchange with the Taft's. This should be completed by the end of 2022. There is also an approximately 10-acre piece that is not connected to the rest of the WMA and is surrounded by private land on all sides that is not currently practical to fence. Finally, there are a couple of small areas where the property extends south of Hatchery Road which are not fenced.

##### **PHYSICAL FACILITIES**

As previously mentioned, the J. Perry Egan Hatchery and all of its associated infrastructure is contained within the WMA. The hatchery is not managed under this WMA management plan but is managed by the State Hatchery System.

There are two garage-type storage facilities on the property just south of Pine Creek Spring as well as several sheds and a storage container.

On the west end of the property just south of the Fremont River is a pheasant-rearing facility. This includes a flight pen as well as the associated storage sheds for the necessary materials and supplies to run the facility.

As part of this HMP, two areas are identified for parking improvement and expansion. The first is a planned pull-through parking area just south of the pheasant-rearing facility alongside the developed upland game habitat area. The second is also a planned pull-through parking area to be added on the southwest corner of the property in conjunction with a planned new upland game habitat area (See Appendix C, Map 4).

## HABITAT PROJECTS

A 20-acre upland game habitat area has been created on the east end of the property south of the Fremont River. This area is planted with a rotation of grain crops and is irrigated annually. In addition, patches of permanent perennial grass have been planted and established in this area, as well as tree and shrub rows to provide both food and cover for upland game species.

Prescribed fire has been used on the property infrequently to date with some small burns carried out internally by DWR staff. In March of 2017, DWR partnered with the State of Utah Division of Forestry, Fire, and State Lands to implement a larger scale prescribed burn of approximately 200 acres.

DWR aquatic staff have also installed structures along Pine Creek to provide overhead cover for sport fish.

There are future plans to expand on many if not all of the habitat projects stated above and they will be discussed in greater detail later in the HMP.

## IRRIGATION

As mentioned above, the 20-acre upland game habitat area on the east end of the property south of the Fremont River is irrigated. This is accomplished using the water rights DWR holds in Pine Creek (See Appendix D, Table 1). Water is pumped out of the creek just below the pheasant-rearing facility and spread across the area through a combination of hand-line sprinklers and ditches along the established tree and shrub rows.

## CULTURAL RESOURCES

There are no cultural resources known on the Bicknell Bottoms WMA at this time.

## **SPECIES OF GREATEST CONSERVATION NEED**

The Utah Wildlife Action Plan was created “to manage native wildlife species and their habitats, sufficient to prevent the need for additional listings under the Endangered Species Act.” The State of Utah has identified several Species of Greatest Conservation Need (SGCN), which “do, or potentially could, present the possibility of an ESA listing.” Threats to these species are described in the Utah Wildlife Action Plan. Up to 11 SGCN’s could potentially occur on lands managed under this plan. For many of these, very little is known about the species and surveys have not been conducted in this area. For those with known information, the following are of note:

### Peregrine falcon (*Falco peregrinus*)

There are historic records of peregrine falcons within a ½ mile radius of the Bicknell Bottoms WMA. Falcons likely use the area to forage on waterfowl and passerine birds and have known eyries in Capitol Reef National Park 12 miles to the east, which places the Bicknell Bottoms WMA well within their foraging range. There are also known historic eyries in the Sunglow and Big Hollow areas within just 1 mile of the WMA.

### Utah prairie dog (*Cynomys parvidens*)

There are two active colonies of the federally listed (threatened) Utah prairie dog within a 1/2 mile radius of the WMA. The majority of the WMA is too wet to expect that Utah prairie dog would establish colonies on the WMA, but it is possible that they could forage around some of the drier perimeter.

### American white pelican (*Pelecanus erythrorhynchos*)

There are historic records and recent observations of American white pelican within one half mile radius of the Bicknell Bottoms WMA.

### Bald eagle (*Haliaeetus leucocephalus*)

There are historic records of bald eagle within a ½ mile radius of the Bicknell Bottoms WMA. Wintering bald eagles are known to forage in waterfowl areas.

### Golden eagle (*Aquila chrysaetos*)

There are resident golden eagles that are often observed foraging in the marsh.

## **IMPORTANT FISH AND WILDLIFE HABITATS**

In addition to the species of greatest conservation need listed above, the Bicknell Bottoms WMA provides crucial habitat for a wide variety of waterfowl, shorebirds, upland game and several trout species. Mule deer and elk also use the property year-round with seasonal increases in fall and winter.

## **GENERAL CONDITIONS OF HABITATS**

### **HABITAT TYPES**

The Bicknell Bottoms WMA is one of the finest natural marshes in Utah. The basic habitat type on the WMA resembles a hemi-marsh environment with a variety of vegetation including hardstem bulrush, cattail, Baltic rush, and saltgrass. There is open water along the upland areas within the boundaries. Most of the water is very shallow and provides excellent habitat for waterfowl. Also, Pine Creek runs along the majority of the WMA and the main channel of the Fremont River flows through the northern portion of the WMA, both providing important sport fisheries for trout.

### **RANGE AND WATERSHED CONDITIONS**

There is very little of the WMA that would be considered rangeland in the traditional sense. However, the condition of the rangelands along tributary streams contribute to challenging watershed conditions. There are multiple tributary channels that contribute significant amounts of sediment to both the marsh and adjacent landowners during significant rain and flow events. Supporting upland treatments and quick responses to future sediment depositing events on adjacent landowners will help to decrease the sedimentation into the WMA.

### **RIPARIAN CORRIDORS AND WETLANDS**

Wetlands associated with the WMA are in good condition and exhibit diverse age classes of vegetation. It is desirable to have all vegetation age classes represented within the property in an effort to provide for the various life cycle needs of the wildlife. This diversity of age class can be attained through a combination of prescribed fire and herbicide along with occasional grazing if deemed necessary and feasible.

While they provide a great trophy trout fishery, the riparian corridors have struggled to establish overhanging vegetation due to the natural characteristic of a marsh system. The area is a natural deposition zone and excessive sediment has impeded the growth of bank vegetation.

## **HABITAT LIMITATIONS**

The biggest habitat limitation on the WMA is related to the inability to use water rights from Pine Creek on the property above the J. Perry Egan Hatchery. Pine Creek is whirling disease positive and using its water above the springs and pipelines that feed the hatchery would put the facility at risk for contracting whirling disease, compromising one of the largest producing hatcheries in the state. The inability to use these water rights limits the opportunity to create an additional upland game area on the west end of the property where there is sufficient dry ground to do so.

The other habitat-related limitation is the existence of wetlands on the property. While this isn't necessarily problematic as the existence of wetlands coincides with waterfowl habitat needs, it does limit options for types of projects. From a physical standpoint, the ground is too wet to manipulate. From a regulatory and permitting standpoint, there are strict and potentially onerous processes that have to be followed for disturbing wetlands.

## **HUMAN USE RELATED PROBLEMS**

With the growing popularity of the pheasant-release program comes increased interest in the opportunity to use the property for pheasant hunting. With that increased use, parking issues are arising and it is proposed to create better parking that allows users to get off the shoulder of Hatchery Road. The size of the upland game area is also limiting the number of users that can be on the property at one time without interfering with other hunters. An additional pheasant release site with an associated parking area is being proposed on the west end of the property in an effort to alleviate that limitation.

## **ADJACENT LAND USES AND POTENTIAL IMPACTS**

The WMA is bordered on the north, east and west by wet meadows that are used mostly for grazing cattle. The south side of the WMA is bordered by several farms and associated homes..

There is some potential for development of residential properties surrounding the WMA. The town of Bicknell is approximately two miles north of the property and is experiencing moderate growth. However much of the land may be unsuitable for residential development due to the

marsh habitat. Residential areas could have adverse impacts on wildlife by restricting movement, disrupting possible nesting grounds, and encroaching upon wildlife hunting/foraging areas. Hunting opportunities may suffer from residential development due to safety issues.

Private landowners on the north side of the property currently accommodate user access to the WMA through their property. Should that situation change, hunters and anglers would lose the north-side access point off of 400 West coming south out of Bicknell. It is proposed to pursue opportunities with adjacent landowners to secure these access points through the use of the walk-in-access program, conservation easements, land exchanges, or acquisitions.

### **ZONING AND LAND USE ORDINANCES**

The Bicknell Bottoms WMA is zoned as Residential/Agricultural. All of the land surrounding the WMA is also zoned as Residential/Agricultural.

#### **IV. MANAGEMENT GOALS AND OBJECTIVES**

The management of the Bicknell Bottoms WMA takes into account the goals, objectives, and strategies of other DWR planning efforts, as well as county and state resource management plans. These plans include, but are not limited to, the DWR strategic plan, the Utah Wildlife Action Plan, and species specific management plans. Some of these plans are briefly discussed below. *Note: this is not a comprehensive review of the listed plans, but a summary of relevant objectives and strategies contained within those plans.*

##### **DWR STRATEGIC PLAN**

The management of the Bicknell Bottoms WMA will be consistent with the goals and objectives of the DWR Strategic Plan:

- Agency goal: Create a culture of respect, innovation, efficiency and effectiveness within the Utah Division of Wildlife Resources.
  - Objective A6 - Increase our coordination with partners, including local, state and federal agencies; non-governmental organizations; universities and others.
- Constituency goal: Strengthen support for wildlife management by demonstrating the value and importance of wildlife to all Utahns.
  - Objective C1 - Increase participation in fishing, hunting, and other wildlife-related activities.
  - Objective C4 - Increase understanding of our customers and potential customers and take reasonable steps to address their needs, wishes and priorities.
  - Objective C5 - Increase understanding of how the broader public views and values wildlife - and how it contributes to their quality of life - and take reasonable steps to address their needs, wishes, and priorities.
  - Objective C6 - Increase hunting and fishing opportunities.
- Resource goal: Conserve, enhance and actively manage Utah's protected wildlife populations.
  - Objective R1 - Increase, decrease or maintain wildlife populations, as needed, to meet the objectives in our management plans.
  - Objective R2 - Maintain existing wildlife habitat and increase the quality of critical habitats and watersheds throughout the state.

- Objective R4 - Decrease risks to species and their habitats through integrated implementation of the Wildlife Action Plan, species recovery plans, conservation agreements and other management plans.

## **WILDLIFE ACTION PLAN**

The 2015 Utah Wildlife Action Plan (WAP) was created with the goal “to manage native wildlife species and their habitats, sufficient to prevent the need for additional listings under the Endangered Species Act.” The WAP identifies wildlife species most in need of conservation attention and the habitats they require for survival. The WAP includes a statewide threat assessment, which identifies threats to each key habitat and then ranks the impact of that threat according to the number of species of greatest conservation need that could be affected. The Bicknell Bottoms WMA contains multiple key habitats listed in the WAP. The threats listed below are not a comprehensive list of statewide threats identified for these habitats, but are those that may be most relevant on the WMA. Management activities on the WMA will attempt, to the extent possible, to address these priority threats, and will use the suggested strategies for management as outlined in the WAP.

### **EMERGENT**

Priority threats include:

- Channelization / Bank Alteration (direct, intentional)(Medium)
- Droughts (High)
- Water Allocation Policies (High)
- Agricultural / Municipal / Industrial Water Usage (Medium)
- Invasive Plant Species - Non-native (Medium)

Strategies for management include:

- Promoting policies that maintain or restore natural water and sediment flow regimes.
- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Continuing the use of appropriate methods for reducing the spread and dominance of invasive weeds, including “early detection - rapid response” programs.

### **RIVERINE**

Priority threats include:

- Sediment Transport Imbalance (Medium)
- Improper Grazing (current) (High)
- Channelization / Bank Alteration (direct, intentional) (High)
- Droughts (High)
- Water Allocation Policies (Very High)
- Agricultural / Municipal / Industrial Water Usage (Very High)
- Invasive Plant Species - Non-native (Medium)

Strategies for management include:

- Promoting policies that maintain or restore natural water and sediment flow regimes.
- Promoting policies that reduce inappropriate grazing by domestic livestock and wildlife.
- Continuing the use of appropriate methods for reducing the spread and dominance of invasive weeds, including “early detection - rapid response” programs.

## **LOCAL RESOURCE MANAGEMENT PLANS**

In 2015, the Utah Legislature passed H.B. 323 which required each county to develop a resource management plan (RMP) as part of the county’s general plan. The State of Utah aggregated the land use decisions and directives that emerged from the county plans and, in 2018, published a resource management plan for the state of Utah. These local resource management plans were created to address and remedy a disconnect between local land use needs/desires and federal land use planning. The county and state RMPs are intended to provide a basis for coordinating with the federal government. Counties also utilize their RMP’s as a basis for coordinating with State planning activities.

Under Utah State Code 63L-10-104, “State agencies and political subdivisions shall refer to and substantially conform to the statewide resource management plan when making plans for public lands or other public resources in the state.”

Local Resource Management Plans applicable to the Bicknell Bottoms WMA include the statewide RMP and the Wayne County RMP. Management of the Bicknell Bottoms WMA will be consistent with these local resource management plans to the extent possible.

## **V. STRATEGIES FOR PROPERTY MANAGEMENT**

### **DEVELOPMENT AND ANNUAL MAINTENANCE ACTIVITIES**

As discussed in the introduction, an advisory committee met and developed goals, objectives and strategies for many activities on the WMA. In addition to these, typical annual maintenance duties include weed control, fence maintenance, signage and annual farming activities in the upland game habitat area.

Specific development related strategies are listed below:

- Develop infrastructure to use DWR water rights on targeted areas. This may require changes in points of diversion and other planning, and its implementation is dependent on those changes being approved and will not be a first priority in implementation of the Habitat Management Plan.
- Assist efforts to establish debris control structures upstream of Bicknell Bottoms to reduce future debris flows into the WMA.
- Identify opportunities for and pursue installation of additional gauging stations or other water flow measurement devices. Locations include one on the Fremont River and one on Pine Creek.
- Install a footbridge across Pine Creek near the pheasant flight pens to increase ease of access to the north side of the wetland from the south access point. Depending on design, bridge installation may require a permit.
- Develop off-road parking opportunities adjacent to upland game plot(s).
- Identify in the plan that camping is not allowed on the WMA and post no camping signs at the expanded parking area(s).
- Incentivize access provided by private landowners to the extent possible (i.e. Walk-In-Access, Conservation Easements, Land Exchanges, Acquisitions, etc) and provide for improved infrastructure at access points (i.e. walk-through gates or other infrastructure at fences).

## **VI. STRATEGIES FOR HABITAT IMPROVEMENT**

### **HABITAT IMPROVEMENT PLAN**

The goals, objectives and strategies developed by the advisory committee and included as Appendix A are the significant driving force guiding the habitat improvement plan for this HMP.

Specific habitat improvement related strategies are listed below:

- Conduct annual vegetation treatments beginning in the summer of 2022 using herbicide and tracked Marsh Master equipment to define corridors (width to be determined by taking reference widths on existing channels in Fremont River and Pine Creek) from the Fremont River to Pine Creek and some private land springs to Pine Creek in an effort to encourage flow and establish a channel over the next 5 years. Approximate location of corridors are highlighted in map 4 of Appendix C. Exact treatment locations will be determined using dye tests and topographical drone technology. If successful, maintenance of the corridors will continue into the future.
- Pursue permits (Stream Alteration, ACOE) to establish a channel through direct actions on the WMA if the vegetation management strategy defined above is deemed unsuccessful.
- Use prescribed (Rx) fire on a rotational basis with a target of every 5-10 years within wetland areas.
- Provide support to adjacent landowners seeking to deal with recent and future debris flows. If requested, DWR aquatic staff will work with adjacent landowners to develop restoration plans and assist in pursuing the necessary permits.
- In conjunction with vegetation management corridors develop pockets devoid of vegetation to allow for standing water using the same method with the Marsh Master and herbicide.
- Use bank anchored log structures to increase overhead cover in the current existing fishable channels as well as any additional channels that establish as a result of the implementation of the vegetation management strategy.
- Expand upland game plantings in existing upland plots to the extent possible.
- Develop a second upland plot on the western edge of the property if irrigation is deemed allowable under whirling disease recommendations.

- Develop additional plantings on the north side of Pine Creek adjacent to the existing upland plot - dependent on equipment access (possibly administrative ATV access across the footbridge).

## **ACCESS MANAGEMENT PLAN**

Access to the WMA is walk-in only. In addition to being limited to access by foot, that access is also impacted by the amount of water on the WMA and necessitates the use of waders to access much of the area. Recognizing this, as well as problems associated with limited parking and increasing interest in use of the WMA, the advisory committee developed the following strategies to address access to the WMA:

- Identify nearby private properties eligible for the Walk-In-Access program and provide application assistance to those interested in participating.
- Install a footbridge across Pine Creek near the pheasant flight pens to increase ease of access to the north side of the wetland from the south access point. Depending on design, bridge installation may require a permit.
- Incentivize access provided by private landowners to the extent possible (i.e. Walk-In-Access, Conservation Easements, Land Exchanges, Acquisitions, etc) and provide for improved infrastructure at access points (i.e. walk-through gates or other infrastructure at fences).
- Develop off-road parking opportunities adjacent to upland game plot(s).
- Identify in the plan that camping is not allowed on WMA and post at the expanded parking area(s).

## **FIRE MANAGEMENT PLAN**

The use of prescribed fire and herbicide applications are the preferred methods for vegetation management on the WMA and will be used to maintain a diversity of age classes on a rotational basis to meet the various life cycle needs of wildlife on the WMA. All prescribed fire activities will be coordinated with staff from the State of Utah Division of Forestry, Fire and State Lands.

The advisory committee developed the following strategy to help guide the use of prescribed fire on the WMA:

- Use prescribed (Rx) fire on a rotational basis with a target of every 5-10 years within wetland areas.

## **VII. SUMMARY STATEMENT OF PROPOSED USES**

The Bicknell Bottoms WMA will be used primarily to protect and enhance waterfowl, upland game, fish and their habitats. In addition, many other types of wildlife both terrestrial and aquatic, along with their habitats will similarly receive protection and enhancement. Human uses that will be allowed and promoted include hunting, fishing and wildlife viewing.

## VIII. MONITORING AND EVALUATION

The Bicknell Bottoms WMA HMP advisory committee developed the following goals, objectives and strategies to guide the monitoring and evaluation of the implementation of the HMP:

- Monitor Effects of Implemented Actions to Further Inform Future Adaptive Management Decisions
  - Involve interested committee members in implementation of actions identified in the Habitat Management Plan.
    - Invite committee members to participate with dye tests and drone topographic evaluation to determine actual corridors for vegetation management strategies outlined above.
    - Invite committee members to assist as volunteers during vegetation management treatments, additional upland plantings, parking lot development, and any other active management taking place on the WMA.
  - Provide an annual progress report each January to the committee and receive feedback for needed adaptive management strategies.
    - Use this annual reporting meeting to evaluate the successfulness of the vegetation management strategy to define corridors, including their compatibility with maintaining waterfowl habitat.
    - Identify progress in implementation of the Habitat Management Plan and determine next steps..

## **IX. APPENDICES**

### **APPENDIX A - BICKNELL BOTTOMS WMA HMP ADVISORY COMMITTEE GOALS, OBJECTIVES AND STRATEGIES DOCUMENT**

#### Bicknell Bottoms Management Goals, Objectives, and Strategies

- Provide Water and Wetland Management with Minimal Impact to Neighbors
  - Increase efficiency of water conveyance through the WMA while still maintaining waterfowl habitat characteristics and within the established regulatory frameworks provided.
    - Conduct annual vegetation treatments beginning in the summer of 2022 using herbicide and tracked Marsh Master equipment to define corridors (width to be determined by taking reference widths on existing channels in Fremont River and Pine Creek) from the Fremont River to Pine Creek and some private land springs to Pine Creek in an effort to encourage flow and establish a channel over the next 5 years. Approximate location of corridors are highlighted in map 4 of Appendix B. Exact treatment locations will be determined using dye tests and topographical drone technology. If successful, maintenance of the corridors will continue into the future.
    - Pursue permit applications (Stream Alteration, ACOE) to establish a channel through direct actions on WMA if vegetation management strategy defined above is deemed unsuccessful.
    - Use prescribed (Rx) fire on a rotational basis with a target of every 5-10 years within wetland areas.
    - Develop infrastructure to use DWR water rights on targeted areas. This may require changes in points of diversion and other planning, and implementation is dependent on those changes being approved and will not be a first priority in implementation of the Habitat Management Plan.
    - Assist efforts to establish debris control structures upstream of Bicknell Bottoms to reduce future debris flows into the WMA.
    - Provide support to adjacent landowners seeking to remedy recent and future debris flows. If requested, DWR aquatic staff will work with

- adjacent landowners to develop these restoration plans and assist in pursuing the necessary permits.
  - Decrease and/or mitigate for the loss of grazing on neighboring properties caused by the flooding of their pastures.
    - Conduct annual vegetation treatments beginning in the summer of 2022 using herbicide and tracked Marsh Master equipment to define corridors (width to be determined by taking reference widths on existing channels in Fremont River and Pine Creek) from the Fremont River to Pine Creek and some private land springs to Pine Creek in an effort to encourage flow and establish a channel over the next 5 years. Approximate location of corridors are highlighted in map 4 of Appendix B. Exact treatment locations will be determined using dye tests and topographical drone technology. If successful, maintenance of the corridors will continue into the future.
    - Pursue permit applications (Stream Alteration, ACOE) to establish a channel through direct actions on WMA if the vegetation management strategy defined above is deemed unsuccessful.
    - Provide support to adjacent landowners seeking to remedy recent and future debris flows. DWR aquatic staff will work with adjacent landowners to develop these restoration plans and assist in pursuing the necessary permits.
    - Identify nearby properties eligible for the Walk-In-Access program and provide application assistance to interested parties.
    - Continue to pursue land exchanges with neighboring landowners that are beneficial to the landowner and DWR.
  - Achieve a greater understanding of water flow through Bicknell Bottoms.
    - Identify opportunities for and pursue installation of additional gauging stations or other water flow measurement devices. Locations include 1 on Fremont and 1 on Pine Creek.
- Protect Waterfowl, Waterfowl Habitat, and Waterfowl Hunting Opportunities
  - Achieve diversity of age structure and habitat types within the vegetative and aquatic community to provide for the life cycle needs of the various waterfowl species that use the WMA.

- Use prescribed (Rx) fire on a rotational basis with a target of every 5-10 years within wetland areas.
  - Develop infrastructure to use DWR water rights on targeted areas if feasible. This may require changes in points of diversion and other planning and its implementation is dependent on those changes being approved and will not be a first priority in implementation of the Habitat Management Plan.
  - Evaluate effects of the vegetation management strategy to define a corridor from the Fremont River to Pine Creek thus informing future adaptive management strategies in regards to their impacts to waterfowl habitat.
  - In conjunction with vegetation management corridors, develop holes in vegetation to allow for standing water using the Marsh Master and herbicide.
- Maintain high quality hunting opportunities for waterfowl enthusiasts.
  - Identify nearby properties eligible for the Walk-In-Access program and provide application assistance to interested parties.
  - Install a footbridge across Pine Creek near the pheasant flight pens to increase ease of access to the north side of the wetland from the south access point. Depending on design, bridge installation may require a permit.
  - Incentivize access provided by private landowners to the extent possible (i.e. Walk-In-Access, Conservation Easements, Land Exchanges, Acquisitions, etc) and provide for improved infrastructure at access points (i.e. walk-through gates or other infrastructure at fences).
- Protect Fish, Fish Habitat, and Fishing Opportunities
  - Continue to improve fish habitat and overhead cover.
    - Conduct annual vegetation treatments beginning in the summer of 2022 using herbicide and tracked Marsh Master equipment to define corridors (width to be determined by taking reference widths on existing channels in Fremont River and Pine Creek) from the Fremont River to Pine Creek and some private land springs to Pine Creek in an effort to encourage flow and establish a channel over the next 5 years. Approximate location

of corridors are highlighted in map 4 of Appendix B. Exact treatment locations will be determined using dye tests and topographical drone technology. If successful, maintenance of the corridors will continue into the future.

- Use bank anchored log structures to increase overhead cover in the current existing fishable channels as well as any additional channels that establish as a result of the implementation of the vegetation management strategy.
- Provide a quality fishing experience.
  - Install a footbridge across Pine Creek near the pheasant flight pens to increase ease of access to the north side of the wetland from the south access point. Depending on design, bridge installation may require a permit.
  - Develop off-road parking opportunities.
- Protect Upland Game, Upland Game Habitat, and Upland Game Hunting Opportunities
  - Increase and improve upland game habitat.
    - Expand upland game plantings in existing upland plot to the extent possible.
    - Develop a second upland plot on the western edge of the property if irrigation is deemed allowable under whirling disease recommendations.
    - Develop additional plantings on the north side of Pine Creek adjacent to existing upland plot - dependent on equipment access (possibly administrative ATV access across the footbridge).
  - Protect and enhance pheasant populations.
    - Explore possibilities for predator control using a bounty for racoon control (possibly in conjunction with the county through a UDAF grant and SFW supplement).
    - Explore possibilities to bring in wild pheasants from another state and bolster or create on-site wild populations.
  - Provide a high quality hunting opportunity for upland enthusiasts.
    - Develop off-road parking opportunities adjacent to upland game plot(s).
    - Identify in the plan that camping is not allowed on the WMA and post no camping signs at the expanded parking area(s).

- Install a footbridge across Pine Creek near the pheasant flight pens to increase ease of access to the north side of the wetland from the south access point. Depending on design, bridge installation may require a permit.
    - Release pheasants during the hunt in the second upland game plot identified above, regardless of whether irrigation is deemed allowable.
- Monitor Effects of Implemented Actions to Further Inform Future Adaptive Management Decisions
  - Involve interested committee members in implementation of actions identified in the Habitat Management Plan.
    - Invite committee members to participate with dye tests and drone topo evaluation to determine actual corridors for vegetation management strategies outlined above.
    - Invite committee members to assist as volunteers during vegetation management treatments, additional upland plantings, parking lot development, and any other active management taking place on the WMA.
  - Provide an annual progress report each January to the committee and receive feedback for needed adaptive management strategies.
    - Use this annual reporting meeting to evaluate the success of the vegetation management strategy to define corridors, including their compatibility with maintaining waterfowl habitat.
    - Identify progress in implementation of the Habitat Management Plan and determine next steps.

Bicknell Bottoms Waterfowl Management Area Habitat Management Plan Advisory Committee

-Troy Justensen (Sportsmen)

-Dave Behunin (Blue Ribbon Council)

-Mike James (Anglers)

-Jeremy Bone (Waterfowl)

-Scott Christensen (Upland Game)

-Dennis Blackburn (Wayne County Commission and Adjacent Landowner)

- Steve Albrecht (Bicknell Town Council and Adjacent Landowner)
- Seth Taft (Adjacent Landowner)
- Boone Taylor (Adjacent Landowner)
- Kerry Cook (Conservation District)
- Phillip Pace (Downstream Water User and Adjacent Landowner)
- Mike Christensen (Downstream Water User)

## APPENDIX B - BICKNELL BOTTOMS WMA HMP ADVISORY COMMITTEE CHARTER

### Charter

#### Bicknell Bottoms Waterfowl Management Area Habitat Management Plan Committee

1) Purpose:

- a. The purpose of the Bicknell Bottoms Waterfowl Management Area Habitat Management Plan Committee is to assist the Utah Division of Wildlife Resources (DWR) in updating and revising the Bicknell Bottoms WMA Habitat Management Plan.

2) Authority:

- a. The Utah State Legislature has directed DWR to prepare a Habitat Management Plan (HMP) for each Waterfowl Management Area (WMA). The HMP is the overarching document providing guidance for management of the WMA. The current Bicknell Bottoms WMA HMP was developed in 2008. After review and recommendations from the local governments, the Resource Development Coordination Council, the Habitat Council, the Regional Advisory Council and the Wildlife Board (as needed), the Division Director has the authority to adopt the plan.
- b. The Utah State Legislature also directed DWR to invite persons who may have interest in or use the land for agriculture, mining, or other commercial interests, hunting, fishing, recreation, adjacent landowners, and local government officials to provide input. The Bicknell Bottoms Waterfowl Management Area Habitat Management Plan Committee is the vehicle the DWR will use to invite persons who may have an interest in how the land is managed and to participate in the management planning process.
- c. The Utah State Legislature further directed DWR that each HMP shall include: a statement of the proposed or anticipated uses, a description of any management limitations or conditions covering the area, an inventory of the existing conditions,

a statement of the desired future condition of the area, a list of strategies that may be implemented to achieve the desired future condition, and a description of any reallocation of forage, water, or other resource appurtenant to the land.

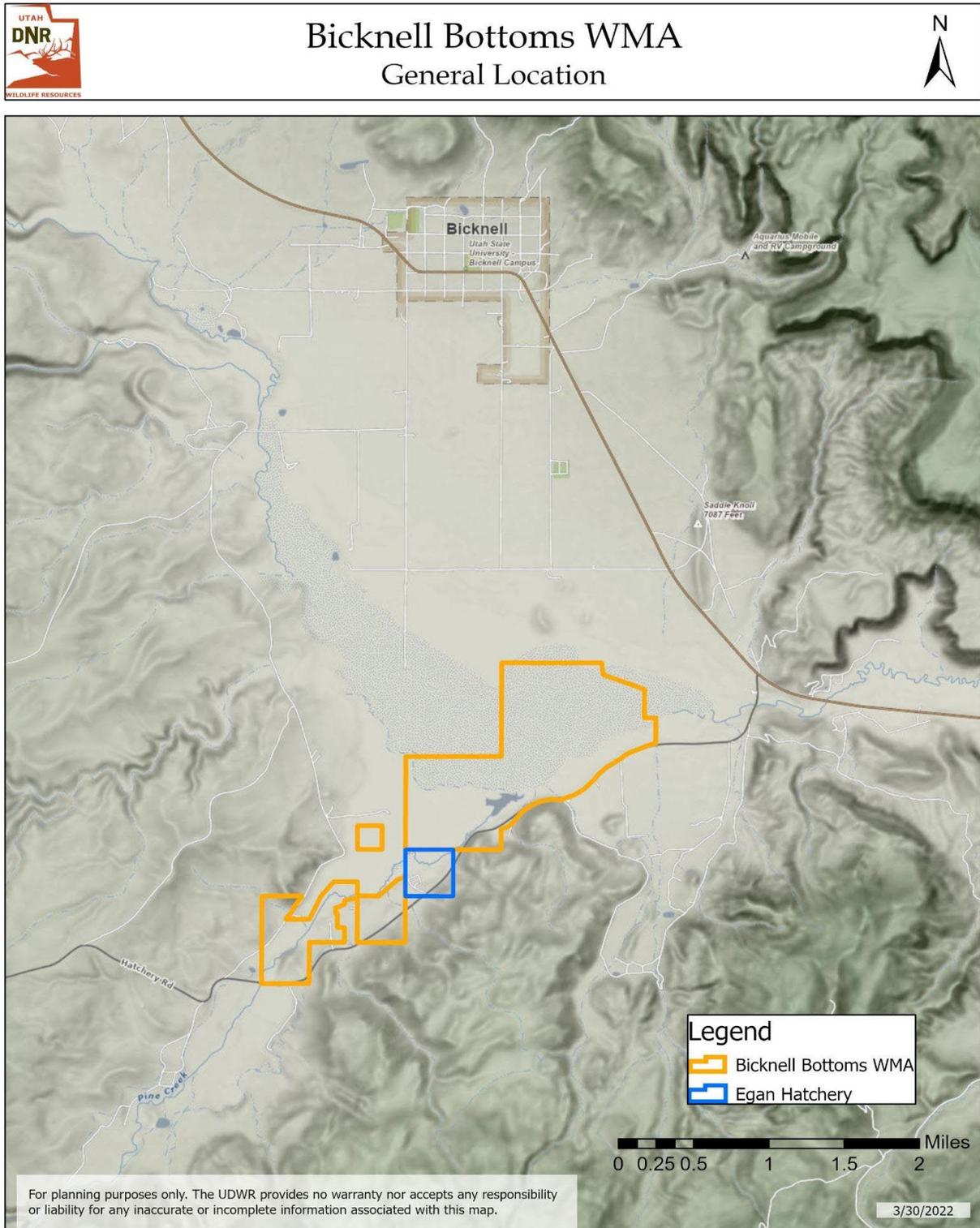
- d. The authority of the Bicknell Bottoms Waterfowl Management Area Habitat Management Plan Committee is limited to that of advising DWR on issues and concerns regarding the management of the Bicknell Bottoms WMA. The committee is fundamental to the development of the HMP, but the content of the plan may be altered by DWR or any other authorized body prior to its approval and implementation.
- 3) Expectations and Time Frame:
- a. DWR anticipates producing a draft HMP by April 1, 2022.
  - b. The plan will include biological and social assessments, issues, goals, objectives, and strategies as appropriate.

4) Roles and Responsibilities:

- a. Members of the Bicknell Bottoms Habitat Management Plan Committee are expected to:
  - i. Commit to participating through March 5, 2022.
  - ii. Attend meetings regularly. Each member may designate one alternate, who may attend meetings and represent the member in their absence.
  - iii. Support group decisions, which will be made through the process of consensus (meaning all will have a chance to be heard, and we can support or live with the decisions that are made).
  - iv. Develop and abide by ground rules formed by the committee.
  - v. Upon completion of the Bicknell Bottoms HMP, and approval by the DWR Director, the committee will be dissolved.

**APPENDIX C - MAPS**

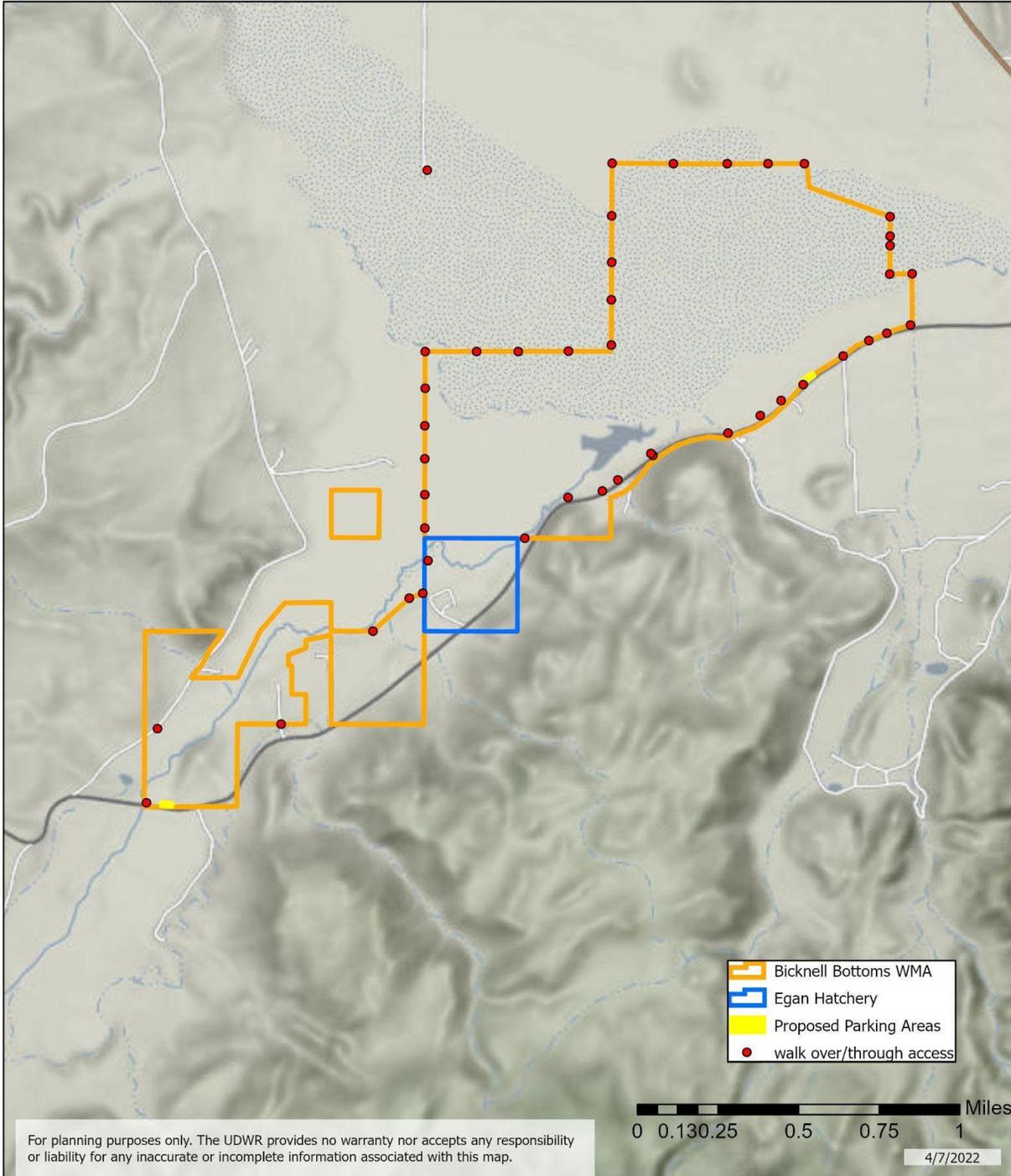
**MAP 1 - LANDS COMPRISING THE BICKNELL BOTTOMS WILDLIFE MANAGEMENT AREA**



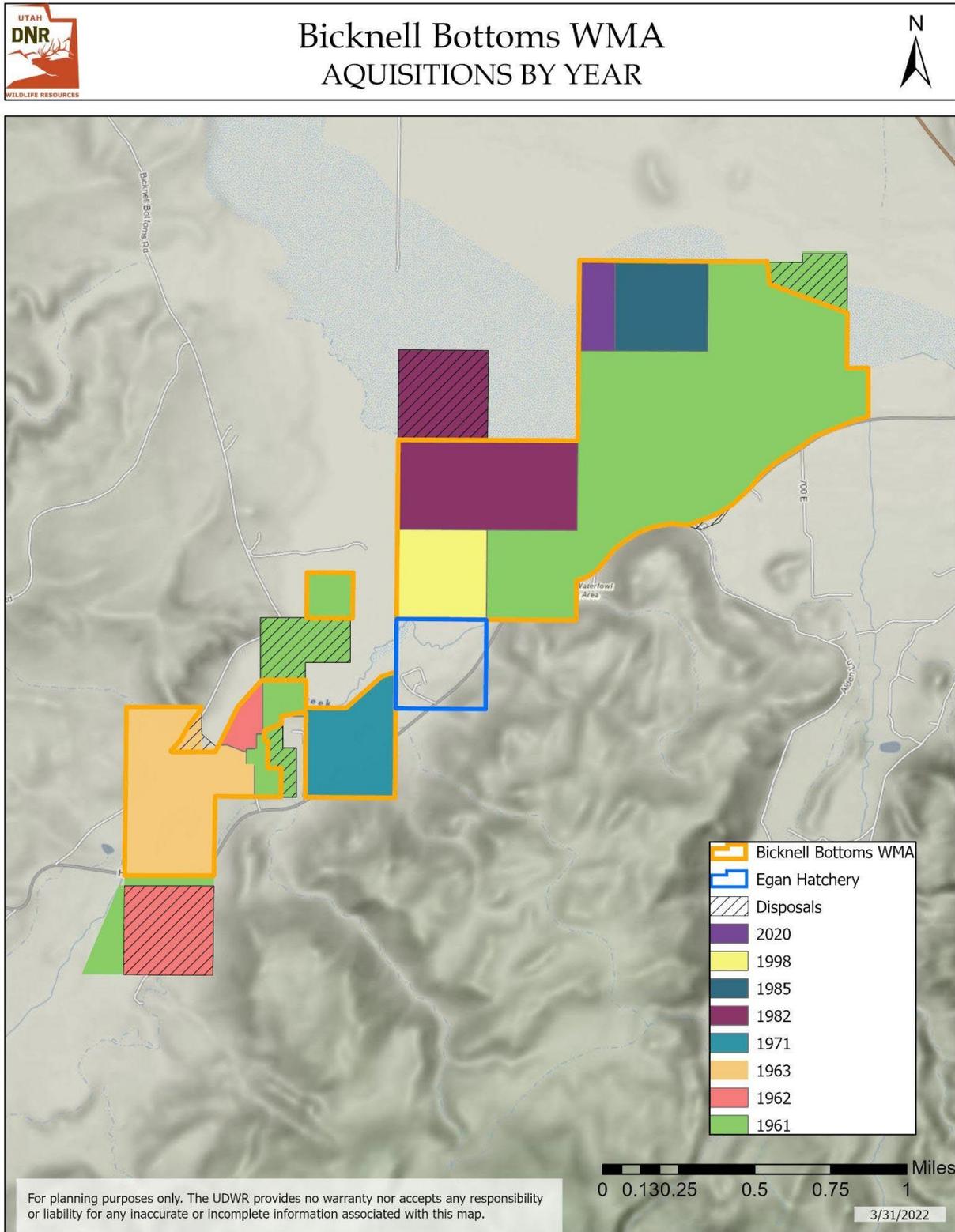
MAP 2 - ACCESS MANAGEMENT PLAN



# Bicknell Bottoms WMA ACCESS MANAGEMENT PLAN



MAP 3 - BICKNELL BOTTOMS WMA ACQUISITIONS BY YEAR INCLUDING DISPOSALS

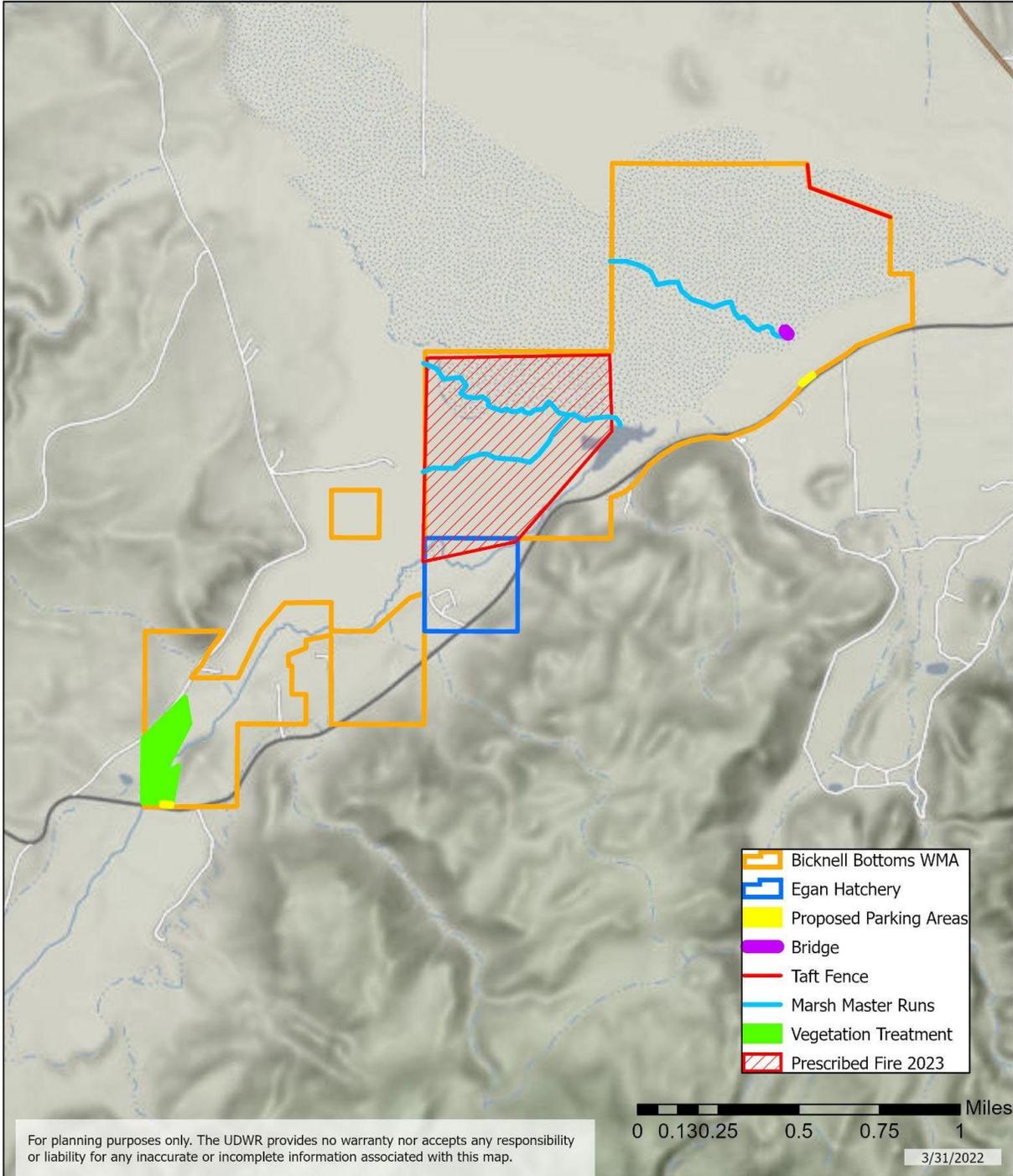


MAP 4 - PROPOSED DEVELOPMENTS AND HABITAT IMPROVEMENTS



# Bicknell Bottoms WMA

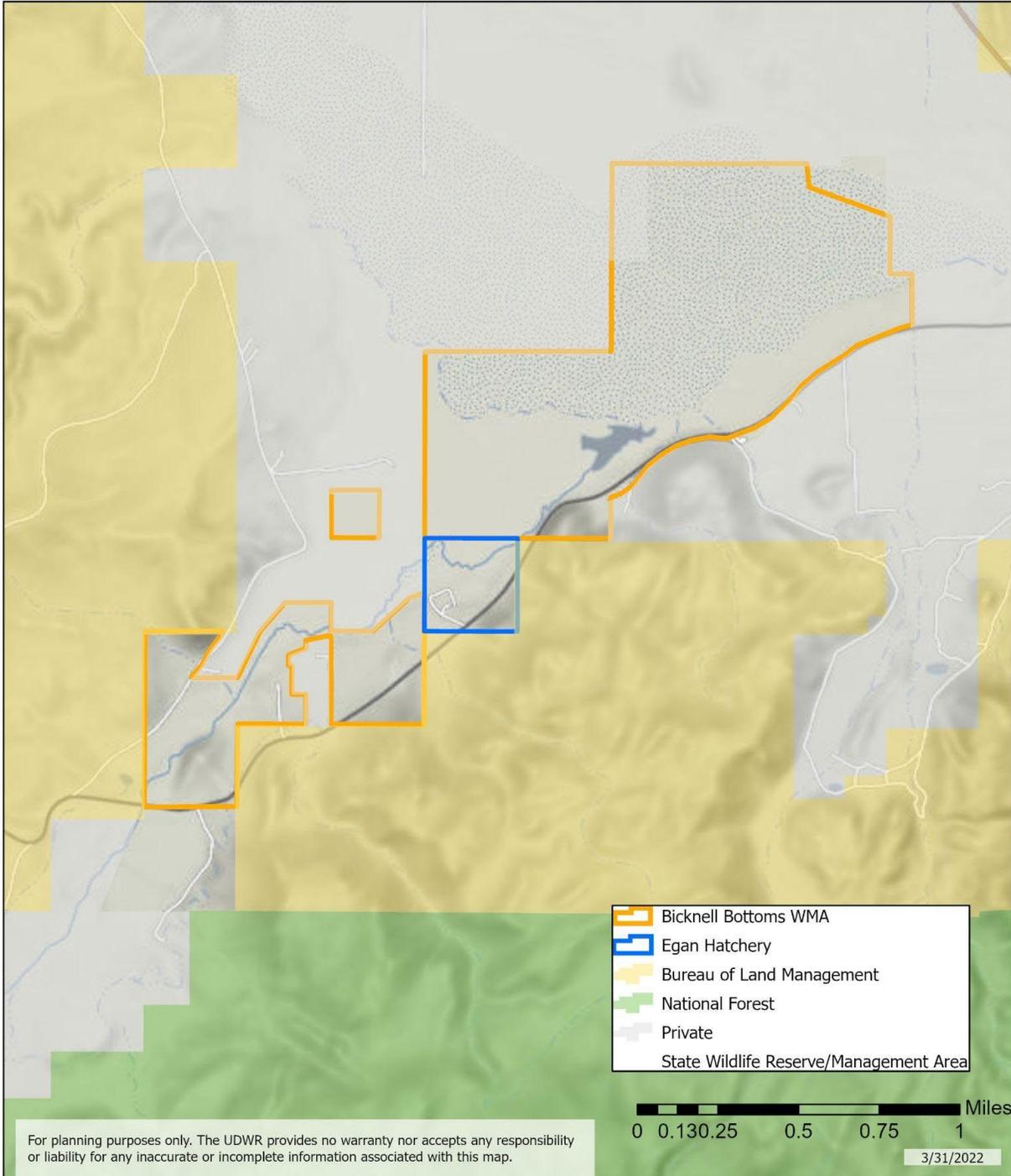
## PROPOSED DEVELOPMENTS AND HABITAT IMPROVEMENTS



MAP 5 - ADJACENT LAND OWNERS



# Bicknell Bottoms WMA ADJACENT LAND OWNERSHIP



## **APPENDIX D - DEEDS**

Copies of deeds associated with the Bicknell Bottoms WMA can be found at the Southern Regional Office of the Utah Division of Wildlife Resources, 1470 North Airport Road, Cedar City, Utah 84721

## APPENDIX E - WATER RIGHTS INFORMATION

### Bicknell Bottoms Water Rights

Water Right #	Source	Priority	Flow	Irrigated Acres	Stockwatering	Domestic #
95-511	Pine Creek Spring	1880	3.0 cfs	54.00	40 elu's	2 families
95-515	Pine Creek	1898	2.04 cfs	30.00		
95-516	Pine Creek Spring	1898	2.30 cfs	20.00	30 elu's	
95-1648	Pine Creek Spring	1882	3.0 cfs	40.80	200 elu's	2 families
95-4785	Pine Creek	1898	1.02 cfs	28.00		
95-4895	Pine Creek	1898	0.12 cfs	3.0		

### Egan Fish Hatchery Water Rights

Water Right #	Sources	Priority	Flow	Irrigated Acres	Domestic #	Fish Culture
95-583	Pine Creek & Pine Springs	3/05/1965	18.00 cfs			fish culture & propagation
95-584	Bullard Spring	3/05/1965	4.0 cfs			Fish culture & propagation
95-678	Underground Water Well	5/11/1970	1.0 cfs	0.25	2 families	fish hatchery, fish culture & 10 employees